

REMARKS

Claims 1, 2, 9-12, 15, 16, 18, 20, 39, 40, 49, 50, and 52-70 have been cancelled without prejudice; claims 3-6, 8, 13, 14, 17, 19, 21, 25-27, 38, 41, 48, and 51 have been amended; and claims 71-103 have been newly added. Claims 3-8, 13, 14, 17, 19, 21, 25-27, 38, 41, 48, 51, and 71-103 are now pending in the application. (Claims 22-24, 28-37, and 42-47 were previously withdrawn.) (It should be noted that the forgoing cancelled claims were cancelled not for patentability reasons but to reduce the number of pending claims so that other new claims could be added while keeping the total number of pending claims to a reasonable number.) Applicant respectfully requests reexamination and reconsideration of the application in light of the amendments and the following remarks.

Initially, Applicants note that new claims 71-92, 95, and 99 are readable at least on the elected species 1 in the Restriction requirement dated May 29, 2001. In addition, at least new independent claims 71 and 83 are generic to at least species 1, 2, and 4-17 identified in the May 29, 2001 Restriction requirement.

The drawings have been objected to and several of the claims rejected under 35 USC § 112, first paragraph as not showing or supporting language in the claims regarding a neutral axis. The claims have also been objected to because the above-mentioned neutral axis language is allegedly unclear. Applicants respectfully point out that the neutral axis described in the claims is not itself part of the physical structure of the recited spring contact but is concept used to describe attributes of the physical structure of the recited spring contact, which is more than adequately shown in the drawings and described in the specification.

Nevertheless, Applicants have replaced the language in the claims regarding a neutral axis. Applicants have done so, however, not for patentability reasons but to simplify the descriptions in the claims and to broaden the scope of the claims. Nonlimiting examples in the drawings and specification supporting cross-sectional width beam contours supporting new independent claims 71, 74 and 83 are shown in Figures 5A, 5B, and 5D, and page 13, lines 11-28 in the specification. Other figures and portions of the specification also support the independent and dependent claims now pending in the application. Therefore, Applicants request that the objection to the drawings, the rejection of the claims under 35 USC § 112, first paragraph, and the objection to the claims as unclear be withdrawn.

Claims 1-21, 25-27, 38-41, and 48-64 have been rejected under 35 USC § 103(a) as obvious in view of US Patent No. 5,152,695 to Grabbe et al. ("Grabbe") and US Patent No. 4,772,228 to Seymour ("Seymour"). Applicants respectfully traverse these rejections.

Independent claim 71 recites a beam comprising "a cross-sectional width . . . contoured to increase an area moment of inertia of said beam." Grabbe does not teach or suggest a beam with a "a cross-sectional width . . . contoured to increase an area moment of inertia of said beam." Rather, Grabbe's cantilever spring arms 22 are merely bent and twisted so that the spring arms provide a wiping motion. (See Grabbe, col. 2, lines 30-36.) Moreover, nothing in Grabbe suggests even the desirability of increasing an area moment of inertia of Grabbe's spring arms much less doing so by contouring the cross-sectional width of the spring arms. Therefore, Grabbe fails to teach or suggest a beam with "a cross-sectional width . . . contoured to increase an area moment of inertia of said beam."

Seymour does not make up for this deficiency in Grabbe. Nothing in Seymour teaches or suggests the desirability of applying the "U" shaped cross-section shown in Figure 2a to a spring contact having a base secured to a terminal and any sort of beam structure extending from the base above the substrate on which the terminal is disposed. Indeed, Seymour is completely silent regarding any need or way to increase an area moment of inertia of such a beam. Therefore, Seymour fails to make up for the deficiency in Grabbe, and claim 71 patentably distinguishes over Grabbe and Seymour.

Moreover, the motivation for combining Grabbe and Seymour provided in the most recent Office Action comes from Applicants' specification—not the prior art. Nowhere does Grabbe or Seymour make the slightest mention or provide the tiniest hint to contour the beam to "reduc[e] the stresses, deflection and the thickness of the beam" (see Office Action dated October 2, 2002, pg. 5). In sharp contrast, Applicants' specification is filled with discussions of reducing stresses, deflections, and thickness by contouring the beam. (See, e.g., Applicants specification: pg. 3, lines 23-28; pg. 4, lines 1-7 and 18-22; pg. 13, lines 11-28; and page 14, lines 1-25.) It is axiomatic that the motivation to combine teachings from references cannot come from the inventor's specification. That is, the PTO cannot use the inventor's own invention as motivation or a guide for combining selected teachings from different prior art references. (See *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999), a copy of which is attached hereto. See in particular pages 4 and 5 of the attached copy.) Therefore, for this additional reason, the rejection

of the claims in view of the combination of Grabbe and Seymour is improper and should be withdrawn.

With respect to dependent claims 3-8, 13, 14, 17, 26, and 27 Applicants traverse the finding that the stated dimensions and spring and deflection ranges are mere design choices. Those claims now depend from new dependent claim 73, which describes the electronic component on which the spring contact is disposed as an unsingulated semiconductor wafer. Applicants respectfully assert that it is not a matter of mere design choice to change the dimensions and spring and deflection ranges of the Grabbe and Seymour contacts such that Grabbe's and Seymour's contacts are suitable for an unsingulated semiconductor wafer. Indeed, nothing in Grabbe or Seymour teaches or suggests utilizing their contacts on a semiconductor wafer, nor do those references provide any teaching as to how one would resize their contacts so that they are suitable for use on a semiconductor wafer. Therefore, dependent claims 3-8, 13, 14, 17, 26, and 27 further distinguish over Grabbe and Seymour.

With respect to dependent claims 51 and 81, Applicants traverse the finding that changing the material composition of Grabbe's and Seymour's contacts to a seed material and a layer of electroplated metallic material represents a mere design choice. Nothing in Grabbe or Seymour suggests forming their contacts of a seed layer and an electroplated layer. Indeed, it is unclear how one would form the Grabbe contact or Seymour contact from a seed layer and an electroplated layer. Therefore, claims 51 and 81 further distinguish over Grabbe and Seymour.

Turning next to independent claim 74, that claim describes the cross-sectional width of the recited beam as "V" shaped. As discussed above, the combination of Grabbe and Seymour is improper. In addition, the cross-section shown in Figure 2a of Seymour is "U" shaped—not "V" shaped. Indeed, the shape shown in Figure 2A of Seymour is much more like the exemplary "U" shape shown in Applicants' Figure 5B than the exemplary "V" shape shown in Applicants' Figure 5A. Moreover, in the Restriction requirement mailed May 29, 2001, it was determined that the "V" shape shown in Figure 5A and the "U" shape shown in Figure 5B correspond to patentably distinct species. Thus, unless the May 29, 2001 Restriction requirement was in error (in which case it should be withdrawn), the Examiner has already determined that a "V" shaped cross section patentably distinguishes over a "U" shaped cross section. Therefore, the "V" shaped beam of independent claim 74 patentably distinguishes over the "U" shape shown in Seymour.

For all of the above reasons, independent claims 71 and 74, and their dependent claims patentably distinguish over Grabbe and Seymour.

Independent claim 83 recites a "method of forming a contact structure" that is clearly not taught or suggested by Grabbe or Seymour. Therefore, independent claim 83 and its dependent claims (claims 84-103) patentably distinguish over Grabbe and Seymour.

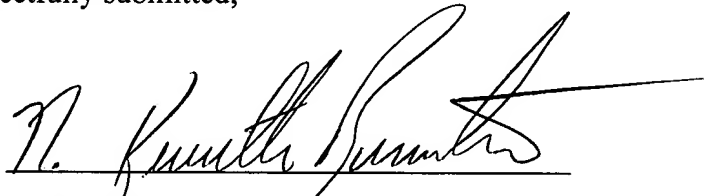
In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (925) 456-3915.

Although Applicants believe that the necessary extension of time and corresponding fee have been provided for in papers filed concurrently with this Amendment, Applicants petition the director for any extension of time deemed necessary for acceptance of this paper, and Applicants authorize the Director to charge any fee deemed necessary for acceptance of this paper to Deposit Account No. 50-0285 (order no. P108-US).

Respectfully submitted,

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